

Claims:

1. An aerosol comprising droplets of an aqueous dispersion of nanoparticles, said nanoparticles comprising insoluble therapeutic or diagnostic agent particles having a surface modifier on the surface thereof.
5
2. An aerosol according to claim 1 wherein said therapeutic agent is beclomethasone dipropionate.
- 10 3. An aerosol according to claim 1 wherein said diagnostic agent is benzoic acid, 3,5-bis(acetylamino)2,4,6-triiodo-, 4-(ethyl-3-ethoxy-2-butenate) ester (WIN 68209).
- 15 4. A method for forming an aerosol of an aqueous dispersion of nanoparticles, said nanoparticles comprising insoluble therapeutic or diagnostic agent particles having a surface modifier on the surface thereof, said method comprising the steps of:
 - a) providing a suspension of said nanoparticles; and
 - b) nebulizing said suspension so as to form an aerosol.
20
5. A method of treating a mammal comprising the steps of:
 - a) forming an aerosol of an aqueous dispersion of nanoparticles, said nanoparticles comprising insoluble therapeutic agent particles having a surface modifier on the surface thereof;
 - 25 b) administering said aerosol to the respiratory system of said mammal.
6. A method according to claim 5 wherein said aerosol is administered in a manner such that it reaches the lung.
30
7. A method according to claim 6 wherein said nanoparticles contain beclomethazone.
8. A method of diagnosing a mammal, said method comprising the steps of:
35
 - a) forming an aerosol of an aqueous dispersion of

71. (New) The method of claim 67, further comprising dissolving a crystal growth modifier in step (a) with the beclomethasone dipropionate.

72. (New) The method of claim 67, wherein the effective average particle size of the beclomethasone dipropionate particles is selected from the group consisting of less than about 1000 nm, less than about 400 nm, less than about 300 nm, and less than about 100 nm, meaning that at least 90% of the particles have a particle size less than the effective average.

73. (New) The method of claim 72, wherein at least 95% of the beclomethasone dipropionate particles have a particle size less than the effective average.

74. (New) The method of claim 72, wherein at least 99% of the beclomethasone dipropionate particles have a particle size less than the effective average.

nanoparticles, said nanoparticles comprising insoluble diagnostic imaging agent particles having a surface modifier on the surface thereof; and

b) administering said aerosol to the respiratory system of said mammal; and

5 c) imaging said imaging agent in said respiratory system.

9. A method according to claim 8 wherein said diagnostic imaging agent is benzoic acid, 3,5bis(acetylamino)-2,4,6-triiodo-, 4-(ethyl-3-ethoxy-2butenoate) ester (WIN 68209).

10